Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense	Date: February 2019
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	65.930	7.839	7.763	3.021	0.000	3.021	3.074	3.114	3.170	3.225	Continuing	Continuing
440: *UAS Airspace Integration*	37.620	4.662	4.980	0.984	0.000	0.984	1.076	1.117	1.163	1.187	Continuing	Continuing
442: *Interoperability*	26.665	3.007	2.453	1.788	0.000	1.788	1.649	1.748	1.658	1.682	Continuing	Continuing
443: *Unmanned Systems Roadmap*	1.645	0.170	0.330	0.249	0.000	0.249	0.349	0.249	0.349	0.356	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Department of Defense (DoD) Unmanned Systems (UxS) Common Development program is a joint effort to develop and demonstrate common standards, architectures, and technologies that address unmanned systems' issues across all domains and all Military Services. The intent is to increase interoperability and effectiveness by promoting cooperative development of solutions that are applicable across all unmanned systems. This effort initially focused on addressing DoD unmanned aircraft systems (UAS), to include integration into the National Airspace System (NAS) and a common, interoperable ground station architecture and associated interface standards. While UAS initially were the primary focus, interoperability among all unmanned and manned systems is the long-term goal.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	3.967	3.781	3.134	0.000	3.134
Current President's Budget	7.839	7.763	3.021	-	3.021
Total Adjustments	3.872	3.982	-0.113	0.000	-0.113
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	4.000	4.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.120	-			
• FFRDC	-0.008	-0.018	-	-	-
• INV-D-032 CBDP - Biological and Chemical Threats Preparedness	-	-	-0.113	0.000	-0.113

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Project: 440: *UAS Airspace Integration*		
Congressional Add: *Airspace Integration*	4.000	4.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense	Date: February 2019
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604400D8Z *I Department of Defense (DoD) Unmanned Systems Common Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Congressional Add Subtotals for Project: 440	4.000	4.000
Congressional Add Totals for all Projects	4.000	4.000

Change Summary Explanation

A $4.0M FY2019 Congressional Add was provided on October 2018.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	Project (Number/Name) 440 / *UAS Airspace Integration*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
440: *UAS Airspace Integration*	37.620	4.662	4.980	0.984	0.000	0.984	1.076	1.117	1.163	1.187	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Airborne Sense-and-Avoid (ABSAA) and Ground Based Sense-and-Avoid (GBSAA) technology development transitioned to UAS programs of record during FY2013. Focus on safe and secure integration into the National Airspace, which includes GBSAA, ABSAA, and Unmanned Traffic Management interoperability and standards

A. Mission Description and Budget Item Justification

Global Hawk and Triton, as well as other Group 3-5 UAS, need a sense-and-avoid (SAA) capability as an alternate means of compliance to Title 14 Code of Federal Regulations, Part 91.111 and Part 91.113, requirement to see-and-avoid other aircraft. The Air Force is leading the effort to develop an ABSAA system that is suitable to support operations within US and foreign national airspace. The RQ-4 Global Hawk, MQ-4C Triton, MQ-1B Predator, MQ-1C Gray Eagle, and MQ-9 Reaper all have a requirement for SAA capability and will leverage the technology being developed by the Air Force. The Army is leading the development of a GBSAA system to provide a solution for improved airspace access in terminal operations as well as operations/training within the GBSAA system's coverage area (e.g., Gray Eagle at Fort Hood, Shadow operations at Cherry Point). This system will provide a near-term solution and is an integral part of the long-term permanent solution. Long term GBSAA systems and Unmanned Traffic Management (UTM) architectures, operating concepts, standards and technology are being developed to allow DoD, commercial and private manned and Group 1-5 Unmanned Aircraft to operate safely and effectively in the national Airspace. The change in airspace procedures, Airspace de-confliction and Traffic Management requires new processes and procedures for safe and secure national airspace access.

This joint funding also supports development of common operating concepts, policy, standards, modeling and simulation, and technology to enable DoD UAS to routinely access the national and international airspace systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Unmanned Aircraft System Airspace Integration Initiatives	0.662	0.980	0.984	0.000	0.984
Description: Starting in FY 2010 the Department's sense-and-avoid (SAA) developmental efforts are enhanced by this defense-wide program element. This program has provided joint funding to accelerate the development of SAA technology and standards to enable UAS to routinely access the national and international airspace systems. This program also supports development of UAS airspace integration policy and standards, as well as the modeling, simulation, and operational analysis needed to validate the standards. In FY 2013 ABSAA and GBSAA efforts transitioned to the Services.					
FY 2019 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 440 / *UAS Airspace Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Develop future Policy and architectures that support the operation of DoD, Commercial, and Private Group 1-5 UAS systems in the national Airspace safely by developing an Unmanned Traffic Management (UTM) system. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the National Airspace with a focus on Groups 1-2 UAS. Evaluate and validate identified best-candidate solutions for low size, weight, power and cost technology supporting military sUAS operations in national, international and foreign national airspace. Develop quantitative safety assessment approaches that support unique UAS operations to support emerging DoD needs and inform future rulemaking. Make formal recommendations for separation minima that enable low-altitude military UAS to remain well clear of other aircraft. Continue to engage the FAA to advance DoD UAS airspace integration. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the National Airspace. ***FY 2020 Base Plans:*** Develop future Policy and architectures that support the operation of DoD, Commercial, and Private Group 1-5 UAS systems in the national Airspace safely by developing an Unmanned Traffic Management (UTM) system. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the National Airspace with a focus on Groups 1-2 UAS. Evaluate and validate identified best-candidate solutions for low size, weight, power and cost technology supporting military sUAS operations in national, international and foreign national airspace. Develop quantitative safety assessment approaches that support unique UAS operations to support emerging DoD needs and inform future rulemaking. Make formal recommendations for separation minima that enable low-altitude military UAS to remain well clear of other aircraft. Continue to engage the FAA to advance DoD UAS airspace integration. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the National Airspace. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** FY20 nominal increase due to increasing contract costs. FY19 budget increase due to FY19 Congressional Add of mandatory increase in mission costs.					
Accomplishments/Planned Programs Subtotals	0.662	0.980	0.984	0.000	0.984

	FY 2018	FY 2019
Congressional Add: Airspace Integration	4.000	4.000

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 440 / *UAS Airspace Integration*

	FY 2018	FY 2019
FY 2018 Accomplishments: Completed Initial Operational Capabilities for Ground Based Sense- and-Avoid (GBSAA) Capabilities at Grand Fork AFB in North Dakota and Bealle AFB in California. Kicked off integration of GBSAA at March AFB in Fargo North Dakota and Air National Guard (ANG) AFB in Syracuse New York . Completed IOC and Training requirements for GBSAA at ANG AFB in Syracuse New York. Completed a CONOPS for DoD utilization of the Draft UTM Architecture. Completed UTM Modeling and Simulation of DoD operations using the UTM Architecture with DoD modifications. ***FY 2019 Plans:*** Complete Final Operational Capability at Grand Forks and Bealle AFB. Integrate GBSAA at Fargo and March AFB. Complete full testing of UTM Architecture and DoD unmanned Service Supplier System interfaces in coordination with the Department of Homeland Security. Conduct Integration of UTM into DoD Counter UAS Systems.		
Congressional Adds Subtotals	4.000	4.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 440 / *UAS Airspace Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBSAA	MIPR	USAF A3 AFLCMC/ HBAG (VOLPE/ MITRE) : AFLCMC/ HBAG	33.672	0.340	Jul 2018	0.480	Jul 2019	0.160		0.000		0.160	Continuing	Continuing	-
DoD UTM	MIPR	NASA : Ames Research California	0.985	0.150	Oct 2018	3.000	Feb 2019	0.387		0.000		0.387	Continuing	Continuing	-
National Guard GBSAA	MIPR	Army PM UAS : Army Redstone, Alabama	1.643	3.200		1.020	Apr 2019	0.000		0.000		0.000	Continuing	Continuing	-
		Subtotal	36.300	3.690		4.500		0.547		0.000		0.547	Continuing	Continuing	N/A

Remarks

NA

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USAF - A3 PBFA Support	Option/ LH	USAF A3 AFLCMC/ HBAG : AFLCMC/ HBAG	1.320	0.972	Mar 2018	0.480	Mar 2019	0.437		0.000		0.437	Continuing	Continuing	-
		Subtotal	1.320	0.972		0.480		0.437		0.000		0.437	Continuing	Continuing	N/A

Remarks

NA

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	37.620	4.662		4.980		0.984		0.000		0.984	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 440 / *UAS Airspace Integration*

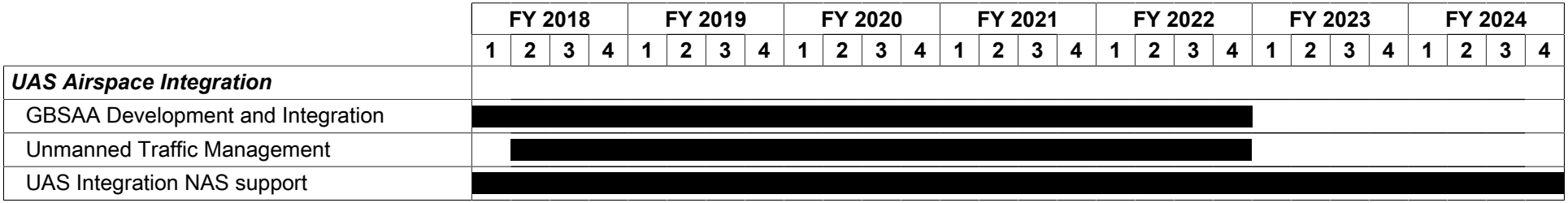

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 440 / *UAS Airspace Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
UAS Airspace Integration				
GBSAA Development and Integration	1	2018	4	2022
Unmanned Traffic Management	2	2018	4	2022
UAS Integration NAS support	1	2018	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	Project (Number/Name) 442 / *Interoperability*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
442: *Interoperability*	26.665	3.007	2.453	1.788	0.000	1.788	1.649	1.748	1.658	1.682	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Interoperability project will develop and demonstrate an interoperable, standards-based, open architecture solution for cross-domain (air, ground, maritime) unmanned systems. The intent is to improve joint and coalition interoperability and to promote competition through the implementation of open standards and open architectures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Interoperability	3.007	2.453	1.788	0.000	1.788
Description: Develop and demonstrate an interoperable, standards-based, open ground station architecture for cross-domain (air, ground, maritime) unmanned systems; improve joint and coalition interoperability; and promote competition through the implementation of open standards and open architectures.					
FY 2019 Plans: Support the continued development and implementation of the SAE working group for UAS Control Segment Architecture (UCS) interfaces and Joint Architecture Unmanned System (JAUS). Develop a Joint Communications Architecture for Unmanned systems (JCAUS) and demonstrate a JCAUS compliant prototypes to validate and further mature the architecture. Develop Safety standards and policy for Unmanned and Autonomous systems that will allow for the incorporation of Artificial Intelligence (AI). Continue support for Unmanned Systems Interoperability and Integration workshop/technical exchange meeting. Develop and Unmanned system autonomous test and Evaluation standards and architectures using modeling and simulation. Investigate a Cyber secure solution for integrating Artificial Intelligent systems into Unmanned Systems Continue support to DoD Interoperability IPT. Develop a UAS Architecture for Small Unmanned Systems Validate Autonomous Safety Precepts for Unmanned Systems Improve cybersecurity and communication links of UxS					
FY 2020 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 442 / *Interoperability*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Support the continued development and implementation of the SAE working group for UAS Control Segment Architecture (UCS) interfaces and Joint Architecture Unmanned System (JAUS). Develop a Joint Communications Architecture for Unmanned systems (JCAUS) and demonstrate a JCAUS compliant prototypes to validate and further mature the architecture. Develop Safety standards and policy for Unmanned and Autonomous systems that will allow for the incorporation of Artificial Intelligence (AI). Continue support for Unmanned Systems Interoperability and Integration workshop/technical exchange meeting. Develop and Unmanned system autonomous test and Evaluation standards and architectures using modeling and simulation. Investigate a Cyber secure solution for integrating Artificial Intelligent systems into Unmanned Systems Continue support to DoD Interoperability IPT. Develop a UAS Architecture for Small Unmanned Systems Validate Autonomous Safety Precepts for Unmanned Systems Improve cybersecurity and communication links of UxS ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The development of a Joint Communications Architecture for Unmanned Systems to support bandwidth requirements for multiple program of records based on the DoD's reduction of Spectrum allocation. Require Blue UAS architecture to support Services and reduce Cyber Security concerns					
Accomplishments/Planned Programs Subtotals	3.007	2.453	1.788	0.000	1.788

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

n/a

E. Performance Metrics

n/a

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	Project (Number/Name) 442 / *Interoperability*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UxS Interoperability and Architecture Development	MIPR	Labs, Warfare Centers, and DoD components and support : DoD Labs, Warefare Center, DoD and support service	26.665	3.007	Sep 2018	2.453	Sep 2019	1.788	Apr 2020	0.000		1.788	Continuing	Continuing	-
		Subtotal	26.665	3.007		2.453		1.788		0.000		1.788	Continuing	Continuing	N/A

Remarks

NA

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.665	3.007		2.453		1.788		0.000		1.788	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 442 / *Interoperability*

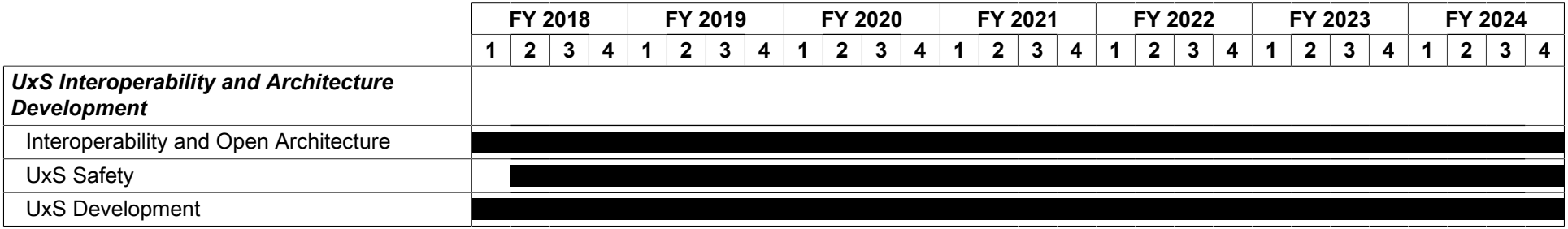

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 442 / *Interoperability*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
UxS Interoperability and Architecture Development				
Interoperability and Open Architecture	1	2018	4	2024
UxS Safety	2	2018	4	2024
UxS Development	1	2018	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	Project (Number/Name) 443 / *Unmanned Systems Roadmap*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
443: *Unmanned Systems Roadmap*	1.645	0.170	0.330	0.249	0.000	0.249	0.349	0.249	0.349	0.356	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This effort supports the Department's Unmanned Systems Integrated Roadmap and updates. The roadmap provides a DoD vision for the continuing development, fielding and employment of unmanned systems technologies; establishes the current state of unmanned systems in today's force; and outlines a strategy to address common challenges to achieve the shared vision across all unmanned domains (air, ground, and maritime).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Unmanned Systems Roadmap	0.170	0.330	0.249	0.000	0.249
Description: Develops, Drafts, and Produces the Department's Unmanned Systems Integrated Roadmap.					
FY 2019 Plans: FY18 Accomplishment 2017 Unmanned System Roadmap completed/published FY19 Plans Release the FY19 Unmanned Systems Integrated Roadmap Update the Department's Unmanned Systems Integrated Roadmap and perform related studies supporting the Department's vision for unmanned systems. Integrate feedback, responses and new technology into the FY19 Roadmap. Investigate changes to concept of operations with guidance provided by Department's vision for unmanned systems.					
FY 2020 Base Plans: Release the FY19 Unmanned Systems Integrated Roadmap Update the Department's Unmanned Systems Integrated Roadmap and perform related studies supporting the Department's vision for unmanned systems. Integrate feedback, responses and new technology into the FY19 Roadmap.					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 443 / *Unmanned Systems Roadmap*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Investigate changes to concept of operations with guidance provided by Department's vision for unmanned systems. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The Unmanned systems roadmap is Developed and published every other year to provide the Department's vision for unmanned systems based on the rapid change in technology					
Accomplishments/Planned Programs Subtotals	0.170	0.330	0.249	0.000	0.249

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Provide up-to-date Unmanned Systems Roadmap providing a DoD vision for the continuing development, fielding and employment of unmanned systems technologies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Office of the Secretary Of Defense			Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 443 / *Unmanned Systems Roadmap*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Unmanned Systems Roadmap	C/LH	Army TARDEC Unmanned System Support services : Army TARDEC	1.645	0.170	Aug 2018	0.330	Aug 2019	0.249		0.000		0.249	Continuing	Continuing	-
		Subtotal	1.645	0.170		0.330		0.249		0.000		0.249	Continuing	Continuing	N/A

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.645	0.170		0.330		0.249		0.000		0.249	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 443 / *Unmanned Systems Roadmap*

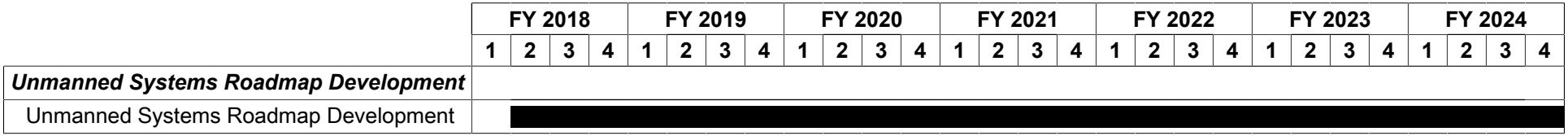

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604400D8Z / *Department of Defense (DoD) Unmanned Systems Common Development*	**Project (Number/Name)** 443 / *Unmanned Systems Roadmap*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Unmanned Systems Roadmap Development				
Unmanned Systems Roadmap Development	2	2018	4	2024